CLAIMS

What is claimed is:

1. A communications device identification method comprising:

providing identification information regarding a group of wireless identification devices within a wireless communications range of a reader;

using the provided identification information, selecting one of a plurality of different search procedures for identifying unidentified ones of the wireless identification devices within the wireless communications range; and

identifying at least some of the unidentified ones of the wireless identification devices using the selected one of the search procedures.

2. The method of claim 1 wherein the providing the identification information comprises determining a range of identifiers of the wireless identification devices which may be within the wireless communications range.

3. The method of claim 2 wherein the providing the identification information comprises determining a number of wireless identification devices which may be within the wireless communications range.

4. The method of claim 3 wherein the determining the number comprises calculating a difference between wireless communications devices having minimum and maximum identifiers.

5. The method of claim 4 wherein the determining the number comprises determining using a binary search to identify the wireless communications devices having the minimum and maximum identifiers.

6. The method of claim 3 wherein the determined range and number correspond to respective ones of N and M, and the selecting comprises selecting a first search procedure if $M < N/LOG_2(N)$ and selecting a second search procedure if $M > N/LOG_2(N)$.

7. The method of claim 6 wherein the first search procedure comprises a binary search procedure and the second search procedure comprises a walk-through search procedure.

8. The method of claim 1 further comprising an article of manufacture embodying executable instructions configured to cause processing circuitry to perform the method of the selecting and the identifying.

9. The method of claim 1 further comprising communicating data intermediate identified ones of the wireless identification devices and the reader.

10. The method of claim 9 wherein the communicating from at least one of the wireless identification devices to the reader comprises communicating using backscatter modulation.

11. The method of claim 1 wherein the reader and the wireless identification devices are configured to implement radio frequency identification device (RFID) communications.

12. A communications device identification method comprising:

providing a reader configured to communicate with a plurality of wireless identification devices;

identifying a first of the wireless identification devices within a wireless communications range of the reader;

identifying a second of the wireless identification devices within the wireless communications range of the reader;

selecting one of a plurality of different search procedures responsive to the identifyings; and

identifying at least one unidentified wireless identification device within the wireless communications range using the selected one of the search procedures.

13. The method of claim 12 wherein the first and the second of the wireless identification devices comprise wireless identification devices having respective ones of a minimum and a maximum identifier.

14. The method of claim 12 further comprising communicating with at least one of the identified wireless identification devices using the reader after the identifying.

15. The method of claim 12 wherein one of the search procedures comprises a binary search procedure, and an other of the search procedures comprises a walk-through search procedure.

16. The method of claim 12 further comprising an article of manufacture embodying executable instructions configured to cause processing circuitry to perform the method of the identifyings and the selecting.

17. A communications device identification method comprising:

providing information regarding a range of identifiers of wireless communications devices which may be within a wireless communications range of a reader;

providing information regarding a number of wireless communications devices which may be within the wireless communications range;

selecting a binary search procedure if $M < N/LOG_2(N)$, wherein M is the range of the identifiers of the wireless communications devices and N is the number of wireless communications devices; and

selecting a walk-through search procedure if $M > N/LOG_2(N)$.

18. A communications method comprising:

providing a first group of wireless identification devices within a wireless communications range of a reader at a first moment in time;

providing first identification information regarding the first group;

first selecting one of a plurality of different search procedures for identifying the wireless identification devices of the first group, wherein the first selecting

comprises selecting using the first identification information;

identifying unidentified ones of the wireless identification devices of the first group using the selected one of the search procedures;

providing a second group of wireless identification devices within the wireless communications range of the reader at a second moment in time;

providing second identification information regarding the second group;

second selecting an other of the different search procedures using the second identification information; and

identifying unidentified ones of the wireless identification devices of the second group using the selected other of the search procedures.

19. The method of claim 18 further comprising communicating data intermediate the reader and identified ones of the wireless identification devices of the first and the second groups.

20. A wireless communications reader comprising:

an antenna configured to communicate wireless signals within a wireless communications range; and

processing circuitry coupled with the antenna and configured to implement wireless communications with a plurality of wireless identification devices within the wireless communications range via the antenna, to analyze a number of wireless identification devices which may be present within the wireless communications range with respect to a range of identifiers of wireless identification devices which may be present within the communications range, to select one of a plurality of search procedures responsive to the analysis, and to identify at least one of the

wireless identification devices within the wireless communications range using the selected search procedure.

21. The reader of claim 20 wherein the processing circuitry is configured to estimate the number of the wireless identification devices.

22. The reader of claim 21 wherein the processing circuitry is configured to identify minimum and maximum ones of the wireless identification devices and to calculate a difference between the minimum and maximum ones of the wireless identification devices to estimate the number.

23. The reader of claim 20 wherein the processing circuitry is configured to estimate the range of identifiers of the wireless identification devices.

24. The reader of claim 23 wherein the processing circuitry is configured to estimate the range corresponding to minimum and maximum possible values associated with the processing circuitry.

25. The reader of claim 20 wherein the range of the identifiers of the identification devices and the number of the wireless identification devices correspond to respective ones of N and M, and wherein the processing circuitry is configured to select a first of the search procedures if $M < N/LOG_2(N)$ and to select a second of the search procedures if $M > N/LOG_2(N)$.

26. The reader of claim 25 wherein the first search procedure comprises a binary search and the second search procedure comprises a walk-through search procedure.

27. The reader of claim 20 wherein the processing circuitry is configured to process backscatter modulation communications received from at least one of the wireless identification devices.

28. The reader of claim 20 wherein the processing circuitry is configured to implement radio frequency identification device (RFID) communications using the antenna.

29. A wireless communications system comprising:

a wireless communications reader configured to implement wireless communications within a wireless communications range;

a first group of wireless identification devices located within the wireless communications range at a first moment in time;

a second group of wireless identification devices located within the wireless communications range at a second moment in time;

wherein the wireless communications reader is configured to obtain the identity of at least one of the wireless identification devices of the first group using a first search procedure and to obtain the identity of at least one of the wireless identification devices of the second group using a second search procedure different than the first search procedure; and

wherein the wireless communications reader is configured to select the first

and the second search procedures responsive to an analysis of group identification information of respective ones of the first group and the second group.

30. The system of claim 29 wherein the wireless communications reader and identified ones of the wireless identification devices are configured to exchange wireless communications.

31. The system of claim 29 wherein the first search procedure comprises a binary search procedure and the second search procedure comprises a walk-through search procedure.

32. An article of manufacture comprising:

a medium comprising executable instructions configured to cause processing circuitry of a wireless communications reader to:

access information regarding a plurality of wireless identification devices which may be within a communications range of the wireless communications reader;

select one of a plurality of different search procedures using the accessed information, wherein the different search procedures comprise procedures for identifying unidentified ones of the wireless identification devices; and

identify unidentified ones of the wireless identification devices using the selected one of the search procedures.

33. The article of claim 32 wherein the executable instructions are configured to cause the processing circuitry to access the information comprising a range of identifiers of the wireless identification devices and a number of the wireless identification devices.

34. The article of claim 32 wherein the executable instructions are configured to cause the processing circuitry to implement wireless communications with at least one of the identified wireless identification devices.